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March 12, 2008 Reference No. 038443

Ms. Karen Cibulskis
Remedial Project Manager
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Mail Code SR-6J
Chicago, IL 60604

Dear Karen:

Re: Groundwater Letter Work Plan
South Dayton Dump and Landfill Site Moraine, Ohio (Site)

This Letter Work Plan presents the South Dayton Dump and Landfill Potentially Responsible Party Group's (PRP Group's) approach for investigation of subsurface and groundwater conditions at the Site. The work will address data gaps and provide necessary information to aid in the completion of a streamlined Feasibility Study (FS) for some portions of the Site. This data will allow the PRP Group and the United States Environmental Protection Agency (USEPA) to determine which portions of the Site are appropriate for a streamlined FS.

The PRP Group has prepared this Letter Work Plan based on discussions between the PRP Group and USEPA in February 2008.

GROUNDWATER WORK OBJECTIVES

The general objectives for the phases of work discussed within this document include the following:

- define subsurface stratigraphy, including identifying till-rich zone(s) and sand and gravel aquifer zone(s) beneath the Site using rotosonic drilling;
- collect data to assist in characterizing groundwater impact and select locations for monitoring wells through vertical aquifer sampling (including evaluation of the existing monitoring wells);
- characterize groundwater chemistry through sampling site monitoring wells; and
- collect groundwater and surface water elevation measurements over time to identify horizontal and vertical gradients and flow directions.

Phase 1

In an effort to meet these objectives, Phase 1 will include three main work tasks – Vertical Aquifer Sampling (VAS) borings, synoptic water level measurements, and groundwater sampling.

1) VAS Borings

Figure 1 presents the locations of twenty-three on-site VAS borings and two off-site VAS borings (on the trailer park parcel). (Additionally, the location of a soil boring that will be used to log the asphalt fill material is presented on this figure.) These borings will be completed using rotosonic drilling techniques. During borehole advancement, continuous soil cores will be observed, soil stratigraphy will be logged and cores will be screened with a photoioization detector (PID). The amount of water added during drilling will be recorded. Groundwater samples will be collected at 5-foot intervals beginning at the 0 to 5 foot interval below the groundwater interface observed during borehole advancement. Groundwater samples will be collected from each discrete interval through a stainless steel slotted screen using an inflatable packer with submersible pump system. The flow rate for purging of groundwater will be dependent on the capacity of the submersible pump and the transmissivity of the aquifer material. Efforts will be made to maintain low flow during purging. Upon purging of the required screen volumes (i.e., amount of water added during drilling, if any, plus three to five volumes of the 5-foot screened zone), the flow rate will be reduced to the lowest sustainable flow rate and sampling will be conducted. VAS samples will not be collected from till material (as identified by a geologist on Site, and by the Unified Soil Classification System (GC, GM)). VAS will be completed to a maximum depth of 100 feet below ground surface (bgs) at each location. All VAS samples will be analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), total arsenic and lead. In addition VAS samples collected from select sampling intervals from each boring will be analyzed for TCL semi-volatile organic compounds (SVOCs).

In VAS borings drilled through fill material, two groundwater samples will be collected from the fill material for TCL SVOC analysis. The first sample will be collected from the five-foot interval beginning at the groundwater interface and the second from the five-foot interval beginning 10 feet below the groundwater interface. Two more samples for TCL SVOC analysis will be collected in native material beneath the fill. The first sample will be collected from the five-foot interval beginning at the till/native soil interface and the second from the five-foot interval beginning 10 feet below the till/native soil interface. In VAS borings completed in native soil, four samples for TCL

SVOC analysis will be collected at elevations corresponding to fill material sample elevations. Sample elevations will be discussed with USEPA field representatives before starting VAS borings in areas believed to be in native soil areas.

The results of the VAS will be used to select monitoring well locations (to be installed in Phase 2).

The proposed VAS borings are roughly laid out along four transects. The transects run approximately parallel to the section of the Great Miami River northwest of the Site and continue toward the southeastern Site boundary. Following is a summary of the VAS boring locations, as identified along each transect, and the rationale for selecting each location. VAS boring locations may be revised based on the results of the Geophysical survey and the test pit/trench investigations, which will be completed prior to the VAS sampling program. Substantive modifications to the VAS boring and sampling program will be discussed with the USEPA prior to implementation.

Transect No.	*VAS Location No.*	*Rationale for VAS Location*
1	1	VAS location along northwest site boundary to serve as a presumed upgradient data point. This location may be moved farther north along the transect if possible.
	2	VAS location along northwest site boundary and within 200 feet of MW-206 to evaluate aquifer data in vicinity of the well.
	3	VAS location along northwest site boundary and within 200 feet of MW-201 and MW-103 to evaluate aquifer data in vicinity of these wells.
2	4	VAS location at northeast corner of site boundary to serve as a presumed upgradient data point.
	5	VAS location to evaluate conditions in vicinity (or in presumed downgradient direction within vicinity) of former Dayton Recycling USTs. Off-set approximately 50 feet northwest of the transect.
	6	VAS location to evaluate conditions in vicinity (or in presumed downgradient direction within vicinity) of drum removal completed in 2000. Off-set approximately 100 feet northwest of the transect.

Transect No.	*VAS Location No.*	*Rationale for VAS Location*
2 cont'd	7	VAS location to evaluate area downgradient of the large asphalt stockpile. Off-set approximately 110 feet southeast of the transect.
	8	VAS location to evaluate area downgradient of the large asphalt stockpile. Off-set approximately 275 feet southeast of the transect.
	9	VAS location to evaluate area downgradient of the large asphalt stockpile. Off-set approximately 150 feet southeast of the transect.
	10	VAS location to evaluate the boundary between parcel 5054 (Valley Asphalt) and parcel 5177.
	11	VAS location to evaluate conditions at approximate center of preliminary direct contact risk area (and located roughly 200-300 feet from former air curtain destructor).
	12	VAS location to evaluate presumed downgradient boundary of preliminary direct contact risk area. Off-set approximately 140 feet northwest of the transect.
	13	VAS location to collect data at southwest corner of site boundary.
3	14	VAS location to evaluate conditions in vicinity of former Custom Delivery UST area. Off-set approximately 100 feet northwest of the transect.
	15	VAS location to evaluate aquifer conditions in vicinity of MW-202. Off--set approximately 225 feet southeast of the transect.
	16	VAS location to evaluate presumed downgradient boundary of preliminary direct contact risk area at northwest corner of parcel 5176. Off-set approximately 225 feet southeast of the transect.
	17	VAS location to evaluate presumed downgradient boundary of preliminary direct contact risk area in vicinity of MW-203. Off-set approximately 100 feet southeast of the transect.
	18	VAS location to evaluate presumed downgradient boundary of preliminary direct contact risk area in vicinity of MW-101A and MW-204. Off-set approximately 200 feet northwest of the transect.

Transect No.	*VAS Location No.*	*Rationale for VAS Location*
	19	VAS location within 200 feet of MW-209 and MW-212 to evaluate aquifer data in vicinity of these wells.
	20	VAS location to collect data south of the Quarry Pond.
4	21	VAS location to evaluate conditions within vicinity of MW-210. Off-set approximately 50 feet southeast of the transect.
	22	VAS location east of Quarry Pond to evaluate conditions at southeastern boundary of site and parcel 4423.
	23	VAS location to collect data at southeast corner of site.

Two additional locations, 24 and 25, are proposed on the trailer park parcel to evaluate off-site conditions in the presumed downgradient direction from MW-210.

Existing monitoring wells will be inspected, repaired as needed and redeveloped to attempt to produce a silt free condition prior to water level monitoring and sampling.

2) Synoptic Water Level Measurements

Synoptic water level measurement events (groundwater and surface water) will be conducted in order to get a better understanding of groundwater flow directions. Note that staff gauges or measurement points will first be required for the GMR, Quarry Pond and other surface water bodies. The reference elevations of the existing monitoring wells will be re-surveyed. Synoptic water level measurements would be completed using all permanent well installations once a month for the remainder of 2008.

3) Groundwater Sampling

A round of groundwater sampling for TCL VOCs, TCL SVOCs, dissolved arsenic and lead will be completed at the existing monitoring wells. Groundwater sampling will be conducted using low flow field sampling procedures. The data will be compared with VAS results to assist in determining the adequacy of the existing monitoring wells.

The results from these 3 tasks will be summarized in a Technical Memorandum that will include recommendations for the scope of Phase 2. The Technical Memorandum will be prepared and then reviewed in a project team workshop, similar to the meetings held with USEPA and Ohio EPA in early 2008.

Phase 2

Phase 2 would consist of three main work tasks – monitoring well installation, groundwater sampling, and continuous hydraulic monitoring.

1) Monitoring Well Installations

New monitoring wells will be installed based on the results of the Phase 1 VAS. If appropriate, the existing wells will be incorporated into the groundwater monitoring well network. All newly installed monitoring wells will be developed following installation. Following development, slug tests will be completed in each new monitoring well.

2) Groundwater Sampling

The Phase 2 groundwater sampling will include 2 rounds of sampling from the newly installed monitoring wells and, if appropriate, the existing wells. The first round of samples will be collected two weeks after installation and development of the monitoring wells and the second round will be collected two months later. The analyses will include TCL/TAL compounds and monitored natural attenuation parameters. The analytical parameters may be reduced for the second round of sampling. The PRP Group will propose reductions in analytes, as appropriate, for USEPA's approval.

3) Continuous Hydraulic Monitoring

The monthly synoptic water level measurements described above would continue through Phase 2. More detailed hydraulic monitoring would be completed by installing transducers in select wells and surface water bodies. The transducers would provide continuous water level measurements that would aid in the evaluation of groundwater/surface water interactions. The data generated for this investigation would support the evaluation of remedial alternatives for the FS.

All work will be performed in accordance with the Field Sampling Plan, Quality Assurance Project Plan, and Site Specific Health and Safety Plan pending USEPA's approval of these documents.

SCHEDULE

Phase 1 fieldwork will be initiated within four weeks of USEPA approval of this Letter Work Plan, or the Field Sampling Plan, Quality Assurance Project Plan, and Site Specific Health and Safety Plan, whichever occurs later. The Phase 1 field tasks will be completed within a four-week period of time using two drill rigs working simultaneously. This schedule is subject to contractor availability and the actual drilling conditions encountered. The PRP Group will provide USEPA with written notification at least one week in advance of the initiation of field activities. Phase 2 fieldwork will begin following identification of monitoring well locations. Monthly synoptic water level measurements will be taken throughout the remainder of 2008.

REPORTING

Phases 1 and 2 technical memorandums will be submitted to USEPA within two weeks of receipt of all data from the laboratory.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

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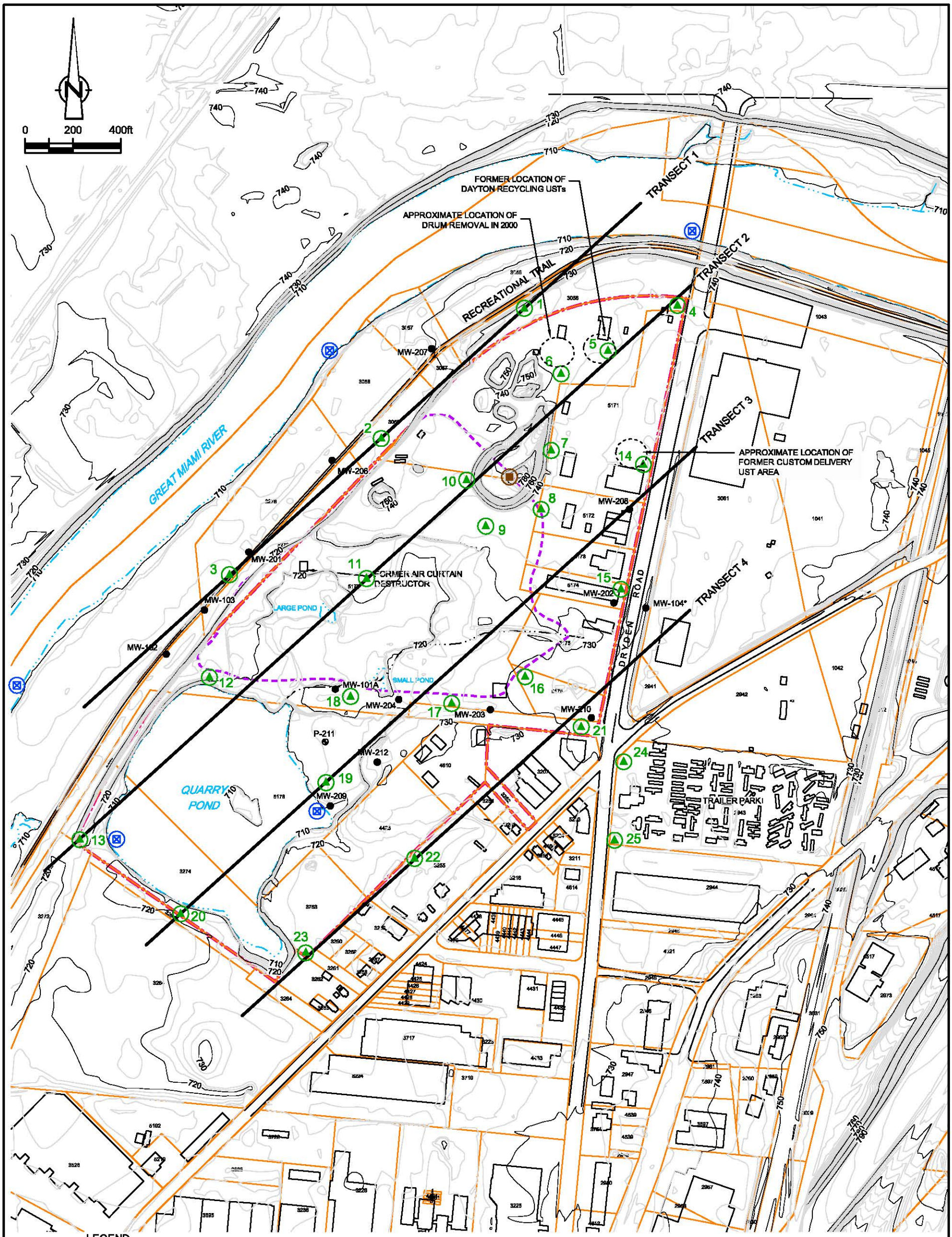

figure 1

VERTICAL AQUIFER SAMPLING LOCATIONS
SOUTH DAYTON DUMP AND LANDFILL SITE
Moraine, Ohio

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